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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,005	08/03/2001	Masafumi Hayashi	DAIN: 645	5831

7590 06/11/2003

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EXAMINER
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LORENZO, JERRY A

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 06/11/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/921,005

Applicant(s)

HAYASHI ET AL.

Examiner

Jerry A. Lorengo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03/18/2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 19-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10-12, 14-16, 18 and 29-34 is/are rejected.
- 7) ☒ Claim(s) 6,7,9,13,17 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.                      6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

(1)

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-18, 22-26 and 29-35, drawn to an image forming method, classified in class 156, subclass 230.
- II. Claims 19 and 27, drawn to a protective layer transfer sheet, classified in class 428, subclass 195.
- III. Claims 20, 21 and 28, drawn to a product-by-process, classified in class 428, subclass 411.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as product and process of use, respectively. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that process such as providing a substrate having a non-printed surface to be protected using the transfer sheet

Inventions I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as by the provision of a print followed by the direct lamination of the protective layer thereon utilizing an interposed adhesive preliminarily coated upon the surface of the print.

Inventions II and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant

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case, the intermediate product is deemed to be useful as a transfer sheet capable of use upon the surface of non-printed substrates and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention:

A first patentably distinct species set forth in claims 10-18 drawn to a protective layer composed of thermoplastic resin.

A second patentably distinct species set forth in claims 22, 25 and 26 drawn to a protective layer capable of providing the image with a particular degree of specular glossiness of 65 to 110% as measured at an angle ranging from 45 to 75 degrees..

A third patentably distinct species set forth in claim 23 drawn to a protective layer capable of providing the image with a particular magenta gradation with a specific specular glossiness of not more than 20% measured at 45 degrees.

A fourth patentably distinct species set forth in claim 24 drawn to a protective layer capable of providing the image with a particular magenta gradation with a specific specular glossiness of not more than 50% measured at 45 degrees.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-9 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims

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readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Mr. Charles Wendel on March 13, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18, 22-26 and 29-35. Mr. Wendel also elected the first species of claims 10-18, whereby claims 1-18 and 29-35 will be examined. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Applicant's election with traverse of claims 1-18 and 29-35 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that there is nothing in the record to indicate that all claimed subject matter cannot be readily examined at the same time. This is not found persuasive because these inventions are distinct for the reasons given

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above and have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification

The requirement is still deemed proper and is therefore made FINAL.

(2)

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 8, 10, 11, 12, 14, 15, 18 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,217,773 to Yoshida.

Regarding applicant claim 1, Yoshida et al. disclose a method for the protection of a printed substrate comprising the steps of:

- (1) Providing a printed substrate 5 (Figure 1a, column 4, lines 36-51);
- (2) Providing a protective layer transfer sheet 1a comprising a thermally transferable protective layer 3 on a substrate sheet 2 (Figure 1a; column 2, lines 45 to column 3, line 68);
- (3) Placing the protective layer transfer sheet 1a in contact with the printed surface of the printed substrate 5 such that the protective layer transfer sheet 1a covers the printed portion of the printed sheet 5 (Figure 1a; column 4, lines 1-8);
- (4) Continuing contact of the protective layer transfer sheet 1a and the printed substrate 5 under the effects of heat and pressure to bond the thermally transferable protective layer 3 to the surface of the printed substrate 5 (Figure 1a; column 4, lines 9-27); and
- (5) Separating the substrate sheet 2 from the thermally transferable protective layer 3 bonded to the surface of the printed substrate 5 (Figure 1a; column 4, lines 28-35).

Regarding applicant claims 8 and 10, Yoshida et al. disclose that the transferable protective layer 3 comprises a mixture of thermoplastics such as acrylic, polyethylene, and polyester resins (column 5, lines 22-35).

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Regarding applicant claim 2, Yoshida et al. disclose that the image forming method utilized to produce the printed substrate 5 may include any image formed by thermal transfer systems such as sublimation transfer and melt transfer, printing systems such as offset printing, ink-jet recording systems, static toner recording systems, etc. (column 4, lines 36-42).

Regarding applicant claim 5, Yoshida et al. disclose that the thermally transferable protective layer 3 may comprise a film of 3 $\mu$ m (column 3, lines 25-29).

Regarding applicant claim 11, Yoshida et al. disclose that the thermoplastic resin making up the thermally transferable protective layer 3 may contain polyester and epoxy resin (column 5, lines 22-35).

Regarding applicant claim 12, Yoshida et al. disclose that the thermoplastic resin making up the transferable protective layer 3, may comprise polyester, a thermoplastic having a T<sub>g</sub> of between 70-75°C (column 5, lines 29-30).

Regarding applicant claims 14 and 15, Yoshida et al. disclose that the thermoplastic resins making up the thermally transferable protective layer may comprise two or more different thermoplastic resins, i.e., acrylic and polyethylene resin, which have number average molecular weights that are different from each other and which major portion (acrylic resin) has a MW<sub>n</sub> less than 10,000 while the other (polyethylene) has a MW<sub>n</sub> of not less than 10,000.

Regarding applicant claim 18, Yoshida et al. disclose that the thermally transferable protective layer 3 may contain an ultraviolet absorber (column 5, line 31-32).

Regarding applicant claim 30, Yoshida et al. disclose that the thermal transfer step may be carried out using a heat roll (Figure 1a; column 4, line 8).

(3)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,217,773 to Yoshida, as set forth in section (2), above.

Yoshida et al., as set forth in section (2), above, disclose a method for the protection of a printed substrate comprising the steps of: Providing a printed substrate; providing a protective layer transfer sheet comprising a thermally transferable protective layer on a substrate sheet; placing the protective layer transfer sheet in contact with the printed surface of the printed substrate such that the protective layer transfer sheet covers the printed portion of the printed sheet; continuing contact of the protective layer transfer sheet and the printed substrate under the effects of heat and pressure to bond the thermally transferable protective layer to the surface of the printed substrate; and separating the substrate sheet from the thermally transferable protective layer bonded to the surface of the printed substrate.

Although Yoshida et al. disclose that the thermal transfer step may be carried out using a heat roll, they do not specifically disclose, as per applicant claim 29, that it occurs



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via a thermal head or that, as per applicant claims 31 and 32, the protective layer transfer sheet is used in either roll or sheet form.

With regards to applicant claim 29, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a thermal head in place of the heated rolls of Yoshino et al. motivated by the fact that Yoshino et al. disclose that the heating step may be accomplished by any heating means and furthermore by the fact that heated rolls and thermal heads are well known functional expedients within the thermal transfer lamination art.

With regards to applicant claims 31 and 32, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the protective layer transfer sheet in either sheet or roll form motivated by the fact that it would be well within the purview of the skilled artisan to utilize either form as a function of the type of lamination to be accomplished. That is, roll forms would find efficient application in a continuous transfer lamination process or where the printed substrate is relatively large, while sheet forms would find greater applicability in discontinuous or batch operations especially where the printed substrate is limited in its dimensions.

(4)

Claims 3, 4, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,217,773 to Yoshida, as set forth in section (2), above, in view of U.S. Patent No. 4,555,436 to Geurtsen et al.

Yoshida et al., as set forth in section (2), above, disclose a method for the protection of a printed substrate comprising the steps of: Providing a printed substrate; providing a protective layer transfer sheet comprising a thermally transferable protective layer on a substrate sheet; placing the protective layer transfer sheet in contact with the printed surface of the printed substrate such that the protective layer transfer sheet covers the printed portion of the printed sheet; continuing contact of the protective layer transfer sheet and the printed substrate under the effects of heat and pressure to bond the thermally transferable protective layer to the surface of the printed substrate; and separating the substrate sheet from the thermally transferable protective layer bonded to the surface of the printed substrate.

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Although Yoshida et al. disclose that the protective layer transfer sheet comprises, in order, a substrate sheet 1, a thermally transferable protective layer 2 thereon; and an adhesive layer 4, they do not specifically disclose, as per applicant claims 3, 4 and 16, that the transfer sheet comprises a transferable release layer disposed between the substrate sheet 1 and the thermally transferable protective layer 2.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the transfer sheet of Yoshino et al. with a transferable release layer disposed between the substrate sheet 1 and the thermally transferable protective layer 2, motivated by the fact that Geurtsen et al., also drawn to transfer sheets 15 having a thermally transferable protective layer 25, disclose that it is known to utilize a transferable release layer 20 disposed between the substrate sheet 10 and the thermally transferable protective layer 25 in order to improve release characteristics and is useful in a wide array of applications for any heat transferable substrate in contact with a support member wherein a clear, glossy appearance is desired (Figure 3; column 12, lines 51-56).

(5)

Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,217,773 to Yoshida, as set forth in section (3), above, in further view of U.S. Patent No. 4,556,627 to Sullivan.

Yoshida et al., as set forth in section (3), above, disclose a method for the protection of a printed substrate comprising the steps of: Providing a printed substrate; providing a protective layer transfer sheet comprising a thermally transferable protective layer on a substrate sheet; placing the protective layer transfer sheet in contact with the printed surface of the printed substrate such that the protective layer transfer sheet covers the printed portion of the printed sheet; continuing contact of the protective layer transfer sheet and the printed substrate under the effects of heat and pressure to bond the thermally transferable protective layer to the surface of the printed substrate; and separating the substrate sheet from the thermally transferable protective layer bonded to the surface of the printed substrate. Although it has been shown to be obvious over Yoshida et al. to utilize the transfer sheet as a separated sheet form, they do not

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specifically disclose the use of a mounting tool wherein the mounting tool is larger than the transfer sheet which is larger than the substrate surface area to bring about transfer.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a mounting tool in practicing the method of Yoshida et al. which is larger than the transfer sheet which, in turn, is larger than the surface area of the target substrate, motivated by the fact that Sullivan, also drawn to methods for the transfer of a transferable coating carried on a transfer sheet to the surface of a target substrate, discloses that it is known and useful to utilize a mounting tool (which is larger than the transfer sheet which, in turn, is larger than the surface area of the target substrate) because such a tool enables the transfer sheet to remain taut and ensure good contact between the transferable film and the target substrate (Figure 1; abstract; column 1, lines 27-51).

(6)

***Allowable Subject Matter***

Claims 6, 7, 9, 13, 17 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Methods for the transfer of a protective layer onto a printed substrate by way of a transfer sheet, such as taught by U.S. Patent Nos. 5,217,773 to Yoshida; 6,042,675 to Kim; 5,397,634 to Cahill et al.; 4,977,136 to Fujiwara et al.; and 4,522,881 to Kobayashi et al., are known in the art. None of the prior art of record, however, specifically teach or suggests such a method utilizing transferable layers and elements having the specific parameters set forth in applicant claims 6, 7, 9, 13, 17 and 35.

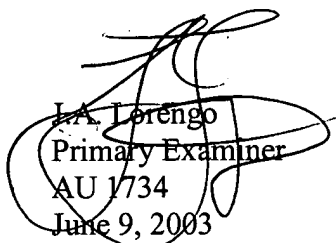
(7)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A. Lorengo whose telephone number is (703) 306-9172. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J.A. Lorengo  
Primary Examiner  
AU 1734  
June 9, 2003